

What is claimed is:

1. A compound comprising:
  - a) a biomolecule; and
  - b) at least one pentopyranosyl nucleic acid
- 5 conjugated through a covalent linkage to the biomolecule; and  
wherein the pentopyranosyl nucleic acid has at least  
two pentopyranosyl nucleotide subunits, wherein the subunits  
of the pentopyranosyl subunits are covalently linked between  
carbon 4 and carbon 2 of their respective pentopyranosyl  
10 rings, and wherein the pentopyranosyl nucleic acid does not  
stably hybridize to naturally occurring DNA or RNA.
2. The compound of claim 2, wherein the compound  
further comprises one or more moieties selected from the group  
consisting of a detectable labeling moiety and a moiety for  
15 attachment to a solid carrier, wherein each moiety is  
conjugated to either the biomolecule or the pentopyranosyl  
nucleic acid through a covalent linkage.